

REMARKS

The Applicant thanks the Examiner, Mr. Mariano Sy, and Supervisory Examiner Mr. Robert Siconolfi, for the interview of October 28, 2008. At the interview, the Examiners appeared to agree that the § 112 rejections in the Office Action of July 8, 2008 ("Action"), are resolved by amending the claims to recite that the power supply in the independent claims is "for providing power to the actuator." In addition, amendments to the claims in view of U.S. Patent No. 7,087,342 (Song) and U.S. Patent No. 5,296,785 (Miller) were discussed. The Examiners stated that an amendment along the lines adopted in this paper would serve to better distinguish over the prior art.

Claims 1-16, 18-34, 36-41, 44, 45, and 59-72 are pending in this application, of which claims 1, 12, 19, 26, 62, and 63 are independent.¹ Favorable reconsideration and further examination are respectfully requested.

Claim 63 has been amended to address the informalities indicated by the Action. Claims 1, 12, 19, 26, and 63 have been amended to address the § 112 rejections. Withdrawal of these rejections is respectfully requested.

Turning now to the art rejections, independent claims 1, 12, 19, 26, 62, and 63 were rejected under § 102(b) as being anticipated by or, in the alternative, under § 103(a) as being rendered obvious by Song. In this regard, the Action stated:

Song et al. disclosed, as shown in fig. 1-3, a vehicle suspension system comprising: electronic control module 4, actuator 6,8,10,12 comprising switch circuitry 14 powered by energy from movement of the actuator to passively damp the actuator. Song et al. was silent to disclose "to passively damp the actuator during a failure of a power supply".

Since no specifics as to the failure of what the power supply is, Song et al. disclosed a passive damper that will be operational by itself even the power supply such as the battery fails. Song et al. also disclosed, as shown in fig. 3, several options for the switching circuit.

The independent claims have been amended along the lines discussed at the interview. As amended, claim 1 recites switch circuitry powered by energy, from movement of the actuator, "that is directly conveyed to the switch circuitry from electric terminals of the actuator."

¹ The Examiner is urged to independently confirm this recitation of the pending claims.

(emphasis added) For example, in one implementation described in the application, and shown in figure 2 of the application, reproduced below, the switch circuitry, i.e., normally-open switch 79, is powered by bi-directional voltages and currents of back EMF which are directly conveyed to the normally-open switch 79 from the electric terminals of the actuator 12 by a failsafe clamping circuit 77 that includes a multi-phase full-wave rectifier bridge 78.² As such, the back EMF energy from the actuator 12 is not stored in any storage device, but is directly conveyed to the switch 79. This is done because, as stated in the application, “solutions that utilizes a storage device are susceptible to failure if the storage device fails.”³

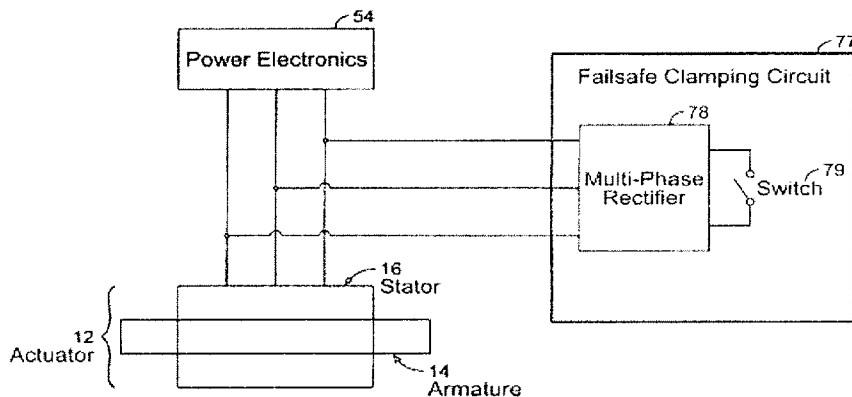


FIG. 2

In Song, a regenerative suspension system 2 (shown in figure 1 of Song, reproduced below) includes a logic module 4 for controlling an electric switch 14.

² Page 9, line 31, to page 10, line 8, of application.

³ Page 10, 10-14, of application.

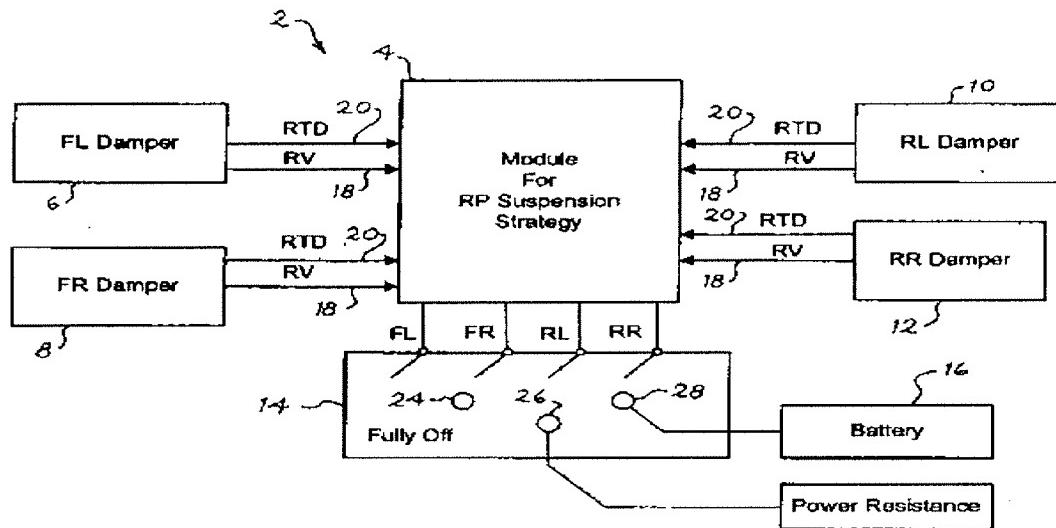


Fig. 1

The electric switch 14 includes circuitry 28 for charging battery 16.⁴ In operation, module 4 reads the regenerative voltage 18 and regenerative travel direction signal 20 and in response, changes the electric switch 14 settings between circuitry 24 for open circuit, circuitry 26 for a power resistance to dissipate regenerative current, and circuitry 28 for charging battery 16.⁵ As such, the electric switch 14 of Song is not powered by the battery 16, let alone energy, from movement of an actuator, “that is directly conveyed to the [electric switch 14] from electric terminals of the actuator.”

Neither does Miller address this deficiency of Song. In Miller, damping is actively controlled by switched reluctance motors incorporated in shock absorbers.⁶ During a failure, power for charging the phases of the motors is provided from a storage device, i.e., either from a capacitor or a “preferred second power supply.”⁷ Accordingly, neither Song nor Miller, taken alone or in combination, describes or makes obvious switch circuitry powered by energy, from movement of the actuator, “that is directly conveyed to the switch circuitry from electric terminals of the actuator.”

⁴ Column 2, lines 35-36, of Song.

⁵ Column 2, lines 29-50, of Song.

⁶ Column 1, lines 55-65, and column 2, lines 11-17, of Miller

⁷ Column 2, lines 23-35, of Miller.

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Serial No. : 10/657,496
Filed : September 8, 2003
Page : 12 of 12

Attorney's Docket No.: 02103-0381001 / AABOSS16

For at least a similar reason given for claim 1, independent claims 12, 19, 26, and 62 are patentable.

Independent claim 63 recites that, during a failure, the switch circuitry is powered to perform its switching operation, “directly by movement of the actuator.” (emphasis added) For at least a similar reason given for claim 1, independent claim 63 is patentable.

All of the dependent claims are patentable for at least similar reasons as those for the claims on which they depend are patentable.

Canceled claims, if any, have been canceled without prejudice or disclaimer.

Any circumstance in which the applicant has (a) addressed certain comments of the Examiners does not mean that the applicant concedes other comments of the Examiners, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicant concedes any of the Examiners' positions with respect to that claim or other claims.

The extension fee in the amount of \$1110 is being paid concurrently on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any other charges or credits to deposit account 06-1050, referencing attorney docket no. 02103-381001.

Respectfully submitted,

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